

ABSTRACT OF THE DISCLOSURE

"DOUBLE TAPERED STEEL WIRE AND METHOD AND APPARATUS FOR CONTINUOUSLY HEAT TREATING THE WIRE"

A double tapered steel wire (S) is evenly heat treated over  
5 the entire length thereof. The wire (S) has its constant-diameter  
straight portion (21, 24) disposed between its opposite end tapered  
portions (22, 23) each tapered down to its reduced-diameter outer  
end. In heat treatments, a diameter of the wire (S) is continuously  
detected by a detection means (3, 6), so that the amount of energy  
10 of induction heating applied to the wire (S) is controlled by a  
control unit (12) in a manner such that the amount of the energy  
is proportional to a wire diameter of the wire (S) having been  
detected, whereby heat applied to the wire (S) varies over the entire  
length of the wire (S). As a result, the wire (s) is quenched and  
15 tempered over its entire length in a manner such that the wire (S)  
thus heat treated has its small-diameter portions (24) and its  
large-diameter portion (21) differ from each other in tensile  
strength.

CHOSEN DRAWING: Fig. 1